

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : C23C 30/00, G01K 11/20, 11/32		A1	(11) International Publication Number: WO 00/06796
			(43) International Publication Date: 10 February 2000 (10.02.00)
(21) International Application Number: PCT/GB99/02413		(81) Designated States: CA, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).	
(22) International Filing Date: 26 July 1999 (26.07.99)			
(30) Priority Data: 9816348.8 27 July 1998 (27.07.98) GB 9823749.8 29 October 1998 (29.10.98) GB		Published With international search report.	
(71) Applicant (for all designated States except US): IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE [GB/GB]; Sherfield Building, Exhibition Road, London SW7 2AZ (GB).			
(72) Inventors; and			
(75) Inventors/Applicants (for US only): CHOY, Kwang-Leong [MY/GB]; 35 Blondvil Street, Cheylesmore, Coventry CV3 5EQ (GB). HEYES, Andrew, Lawrence [GB/GB]; 13 Spencers Lane, Cookham, Berkshire SL6 9JX (GB). FEIST, Joerg [DE/GB]; 67 Morley Road, Stratford, London E15 3HF (GB).			
(74) Agent: TURNER, James, Arthur; D. Young & Co., 21 New Fetter Lane, London EC4A 1DA (GB).			
(54) Title: THERMAL BARRIER COATING WITH THERMOLUMINESCENT INDICATOR MATERIAL EMBEDDED THEREIN			
(57) Abstract <p>A coating material (20) for coating a machine component (10), especially a gas turbine or a part thereof, comprises a mixture of at least a refractory material and an indicator material having an optical emission (e.g. fluorescence) spectrum which varies in response to a physical parameter of the coated component. In a preferred embodiment, the coating consists of yttrium aluminium garnet (YAG) or yttrium stabilised zirconium. The dopant is preferably a rare earth metal, e.g. Eu, Tb, Dy.</p>			
			